FACT SHEET
Developing a Tsunami Alert Rapid Notification System in Asia

J. Lewis, NOAA

On Patong Beach Phuket, lifeguards play an important role in the Thai early warning system. The TARNS Project will help improve protocols and communications procedures to ensure the people on the beach get warnings and are moved to safety.

What is TARNS?

Tsunami Alert Rapid Notification System (TARNS) refers to a process for widely disseminating a tsunami warning message from a central focal point at the national level to the public at risk. A set of procedures and protocols for all relevant entities are developed and coordinated based on the country's government structure, available technologies and mechanisms for mass communication, and existing infrastructure. This process is tailored to reflect the unique attributes and culture of each country using TARNS.

Why is it needed?

The tremendous loss of life resulting from the December 26, 2004 tsunami emphasized the necessity of establishing and improving tsunami warning systems in countries of the Indian Ocean. While the Pacific Tsunami Warning Center (PTWC) in Hawaii notified officials in some countries about the probability of a tsunami generated by the Sumatra Earthquake, there were no protocols for distributing this warning information to appropriate government officials, media, community organizations, and coastal populations.

What are the components of an effective TARNS?

An effective TARNS consists of three components:

1) **A system design and plan** that includes several elements, such as a regulatory framework that takes into account the respective roles and responsibilities of government levels and the role of the media, a schematic of communication pathways for the warning, required interagency agreements, standard operating procedures that are updated annually, checklists, and provisions for periodic testing and evaluating the system.

2) **Appropriate technology** to facilitate rapid movement of warning information as per the TARNS plan and operating procedures.

3) **Procedures** to test and evaluate all aspects of the system on a routine basis as identified in the TARNS plan and required by the characteristics of the technology utilized.

How will the US IOTWS Program contribute to the TARNS development?

The US IOTWS Program will partner with a selected country within the Indian Ocean region to develop a pilot TARNS program. The US will share protocols, templates, principles and lessons-learned from its more than fifty years of tsunami warning experience in the Pacific Ocean. Specifically, the US IOTWS team will work with the host country to

- Develop a TARNS Working Group to enhance coordination and function of the TARNS in collaboration with US experts,

- Identify appropriate technologies per the TARNS plan and explore opportunities for public-private partnerships to acquire and install these improved technologies, and

- Design and conduct simulation exercises to test and enhance the framework, procedures, technology of the TARNS.

For more information on TARNS contact

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Evacuation signs should include symbols that are easy to understand and include local language information about safe evacuation routes.

About the US Indian Ocean Tsunami Warning System (IOTWS) Program

The US IOTWS Program is part of the international effort to develop tsunami warning system capabilities in the Indian Ocean following the December 2004 tsunami disaster. The US program adopts an "end-to-end" approach—addressing regional, national, and local aspects of a truly functional warning system—along with multiple other hazards that threaten communities in the region. In partnership with the international community, national governments, and other partners, the US program offers technology transfer, training, and information resources to strengthen the tsunami warning and preparedness capabilities of national and local stakeholders in the region. For more information please visit **www.iotws.org**.

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U.S. Contribution to the
**Indian Ocean
Tsunami Warning
System**